



## Gwasanaethau Dwyieithog Ar-lein Bilingual Online Services



- **Saernïo'r dewis gorau posibl ar gyfer cynyddu'r defnydd o e-wasanaethau Cymraeg**
- **Optimum choice architecture for increasing use of Welsh language e services**

## Sut mae modd defnyddio rhywbeth heb fod yn ymwybodol o'i fodolaeth?

### *How can you use something if you don't know it exists?*

Modelau Newid Ymddygiad a Rhyngwynebau Cyfrifiadurol  
Behaviour change models and minority language interfaces

Dr Jeremy Evas, Dr Daniel Cunliffe

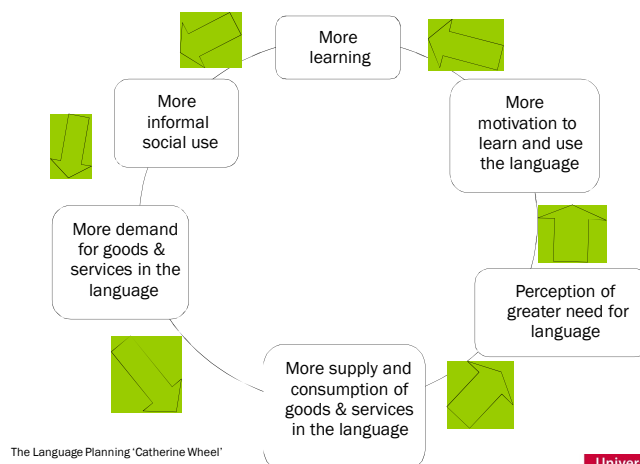


## Context: wide/Cyd-destun: eang

- |                                                                                                           |                                                                                      |
|-----------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| • Content creation                                                                                        | • Creu Cynnwys                                                                       |
| • Language technology <i>per se</i>                                                                       | • Technoleg Iaith <i>per se</i>                                                      |
| • Interface Language of a given<br>program/website/app/cashp<br>oint/system/digital<br>interactive system | • Rhyngwyneb<br>rhaglen/gwefan/app/peiriant<br>arian/system ddigidol<br>ryngweithiol |



## Catherine Wheel (Strubell)



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## Yr Her/The Challenge



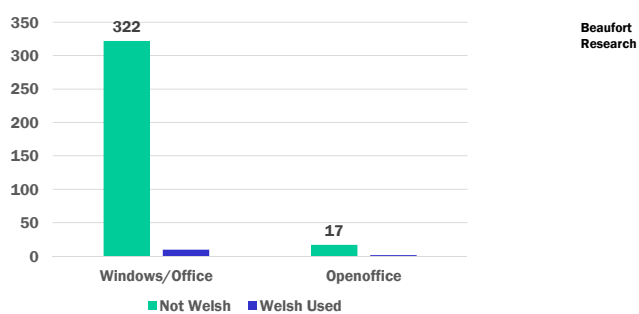
**Beaufort Research**  
(I Fwrdd yr Iaith Gymraeg/  
for Welsh Language Board 2007)

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# 2007



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## Yr Her/The Challenge



Canlyniadau Arolwg o Fusnesau Bach a  
Chanolig Mawrth/Ebrill 2013

Results of a Survey of Small and Medium-  
Sized Enterprises March/April 2013

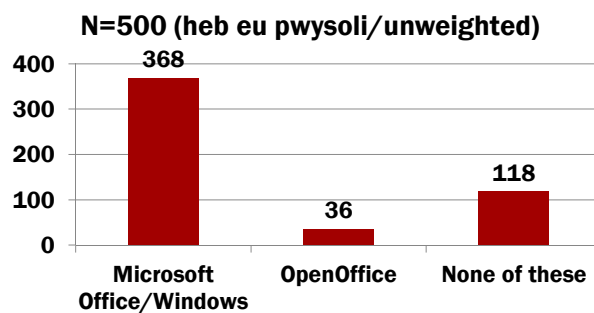
RMG Clarity i Gomisiynydd y Gymraeg/for Welsh Language Commissioner,  
12/2013



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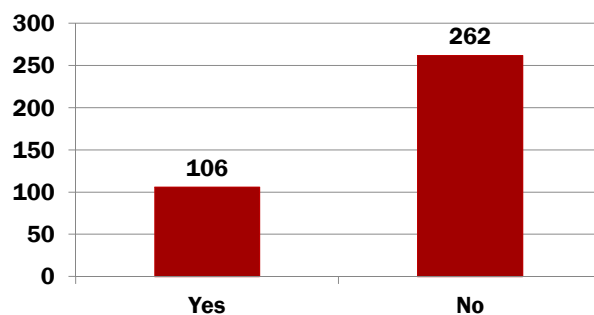
Pa rai o'r canlynol byddwch yn eu defnyddio ar eich cyfrifiaduron yn y gwaith?  
Which of the following do you use on your computers in work?



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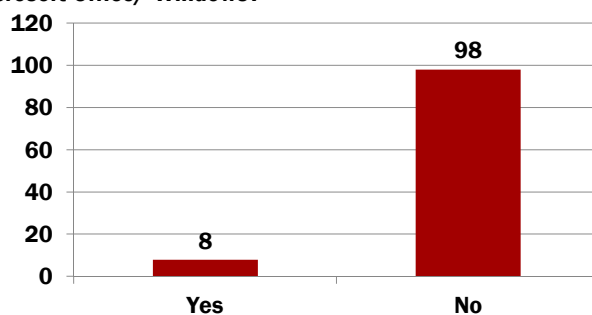
A ydych yn ymwybodol bod fersiwn Cymraeg ar gael ar gyfer...  
Are you aware that there is a Welsh language version available for ...



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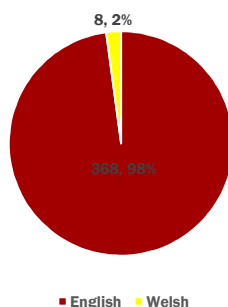
A ydych yn defnyddio fersiwn Cymraeg ...  
Do you use the Welsh language version on ...  
Microsoft Office/ Windows?



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## Crynodeb/Summary



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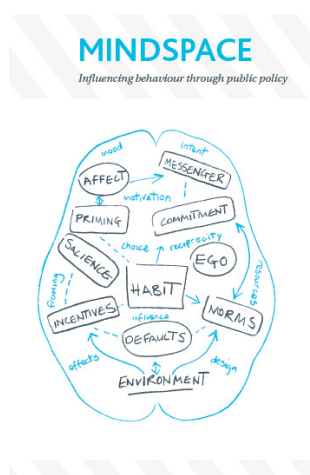
## Behavioural Economics

- Behavioural economists Fogg, Chanasyk, Quihuis, Moraveji, Hreja and Nelson (2011), posit that 'believing that information leads to action' is one of the ten most common mistakes of behavioural changing techniques.

Fogg, B.J., Chanasyk, K., Quihuis, M., Moraveji, N., Hreja, J., & Nelson, M. (2010). Top 10 Mistakes in Behaviour Change. Persuasive Tech Lab, Stanford University: <http://www.behaviorchange.stanford.edu/L202>

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|                    |                                                                                                         |
|--------------------|---------------------------------------------------------------------------------------------------------|
| <b>Messenger</b>   | we are heavily influenced by who communicates information                                               |
| <b>Incentives</b>  | our responses to incentives are shaped by predictable mental shortcuts such as strongly avoiding losses |
| <b>Norms</b>       | we are strongly influenced by what others do                                                            |
| <b>Defaults</b>    | we 'go with the flow' of pre-set options                                                                |
| <b>Salience</b>    | our attention is drawn to what is novel and seems relevant to us                                        |
| <b>Priming</b>     | our acts are often influenced by sub-conscious cues                                                     |
| <b>Affect</b>      | our emotional associations can powerfully shape our actions                                             |
| <b>Commitments</b> | we seek to be consistent with our public promises, and reciprocate acts                                 |
| <b>Ego</b>         | we act in ways that make us feel better about ourselves                                                 |

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### EAST

Four simple ways to  
apply behavioural insights

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#### 1. Make it Easy

- *Harness the power of defaults.* We have a strong tendency to go with the default or pre-set option, since it is easy to do so. Making an option the default makes it more likely to be adopted.
- *Reduce the 'hassle factor' of taking up a service.* The effort required to perform an action often puts people off. Reducing the effort required can increase uptake or response rates.
- *Simplify messages.* Making the message clear often results in a significant increase in response rates to communications. In particular, it's useful to identify how a complex goal can be broken down into simpler, easier actions.

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## Rhesymau/Reasons?

- Awareness
- Installation issues/Admin rights
- Confidence in use of technology
- Confidence in use/quality of language
- Self-efficacy
- Ymwybyddiaeth
- Problemau gosod/hawliau gweinyddwr
- Hyder o ran technoleg
- Hyder o ran defnydd iaith/ansawdd iaith
- Hunan-effeithiolrwydd

## Gwyliwch y Bwlch/Mind the gap...

- **14/03/2007** [Arolwg ar hybu technoleg yn Gymraeg](#)
- **13/06/2008** [Hybu Technoleg Gwybodaeth Cyfrwng Cymraeg: Ailymweld â Phrosiect Hyrwyddo Technoleg 2007 yn Ynys Môn](#)
- **22/08/2008** [Prosiect Hyrwyddo Defnyddio Technoleg Cymraeg: Gwynedd a Chonwy](#)
- **23/10/2008** [Prosiect Hyrwyddo Defnyddio Technoleg Cymraeg: Gwynedd a Chonwy \(Deudraeth Cyf.\)](#)

# Myth 1

Cyfrifiaduron Cymraeg? Rhy ddrud!  
Computers in Welsh? Too expensive!



# Myth 2

Mae'n rhy anodd ei ddefnyddio yn Gymraeg  
It's too difficult to use in Welsh



# Myth 4

Allwn ni ddim defnyddio technoleg Cymraeg –  
mae'n technegwyr yn ddi-Gymraeg  
We can't use it – our technicians don't speak  
Welsh



# Myth 5

Mae'n ysgol/cartre/swyddfa i yn  
ddwyieithog – alla i ddim rhannu  
cyfrifiadur gyda rhywun sy'n ddi-  
Gymraeg

My school/home/office is bilingual –  
I can't share a computer in Welsh  
with someone who doesn't speak  
Welsh



## Cyfrifon Defnyddwyr

**Cartrefi/Sefydliadau/Gweithleoedd dwyieithog!**

- Gall pobl sydd â **gwahanol sgiliau iaith** ddefnyddio'r un cyfrifiadur
- Mae'r 4 person isod yn **rhannu'r un cyfrifiadur**
- Proffil unigol i bob defnyddiwr** gyda gwahanol dewisiadau iaith – a hynny'n **awtomatig!**

 **Proffil BETHAN's Profile**  
Cymraeg/Welsh

Windows XP: **Saesneg/ English**  
Office 2003: **Cymraeg/ Welsh**

 **Proffil GARETH's Profile**  
Dysgu Cymraeg/Welsh Learner

Windows XP: **Saesneg/ English**  
Office 2003: **Cymraeg/ Welsh**

## User Accounts

**Bilingual Homes/Institutions/Workplaces!**

- People with **different language skills** can use the same computer
- The 4 people below **share the same computer**
- An individual Profile for every user** with different language options – **automatically!**

 **Proffil ELERI's Profile**  
Cymraeg/Welsh

Windows XP: **Cymraeg/ Welsh**  
Office 2003: **Cymraeg/ Welsh**

 **Proffil PAUL's Profile**  
Saesneg/English

Windows XP: **Saesneg/ English**  
Office 2003: **Saesneg/ English**





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# Myth 6

Does dim modd defnyddio  
technoleg yn Gymraeg ar  
rwydwaith

You can't use Welsh language  
technology on a network





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# Myth 7

Smo 'Nghymrâg i'n ddigon da –  
sai'n deall y termau  
My Welsh isn't good enough – the  
terms are too complicated



## Profiad Seland Newdd New Zealand Experience

- 2012, Mato, Keegan, Cunliffe & Dalley
  - Microsoft Office (2003, 2007, 2010)
  - Windows (XP, Vista, Windows 7)
  - Moodle (Versions 1.6, 2.0)
  - Google (Chwilio/Search)

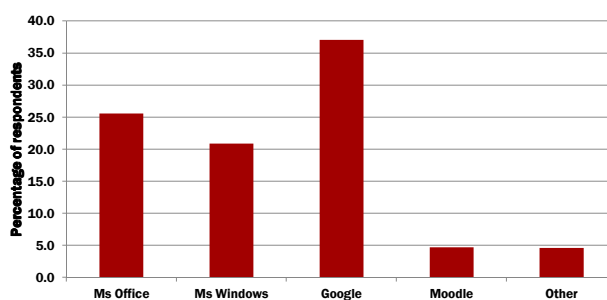


## Profiad Seland Newdd New Zealand Experience

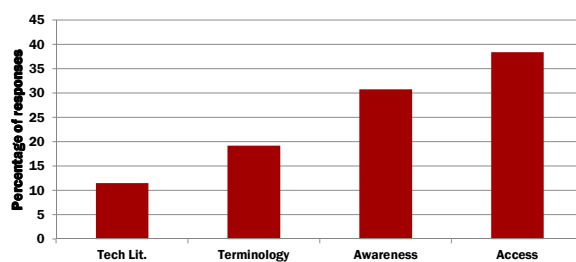
- Principals of Māori medium schools
- 45.8% personally using some form of Māori language software



...which of the following do you use in the Māori language?



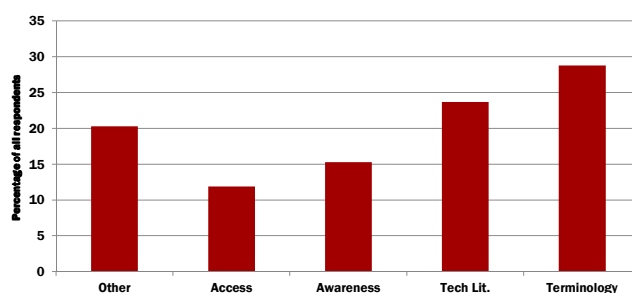
Why do you personally not use software with a Māori language interface?



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What do you think prevents fluent speakers from using software in the Māori language?

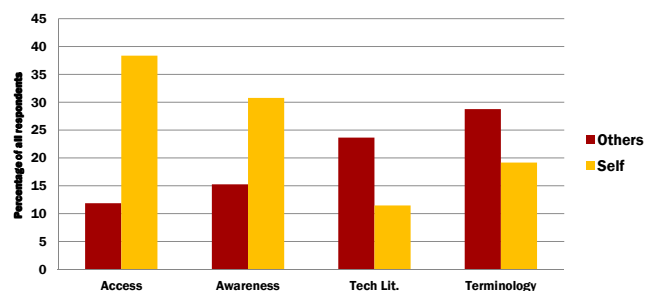


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### Barriers to using software in the Maori language.

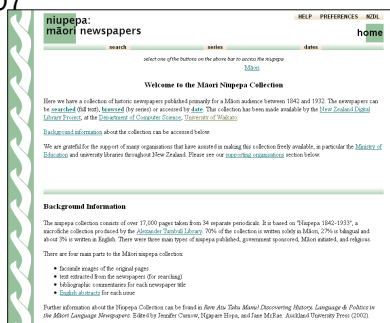


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### Newid iaith rhyngwyneb catalog llyfrgell Library catalogue language interface swap

- Keegan, PhD 2007



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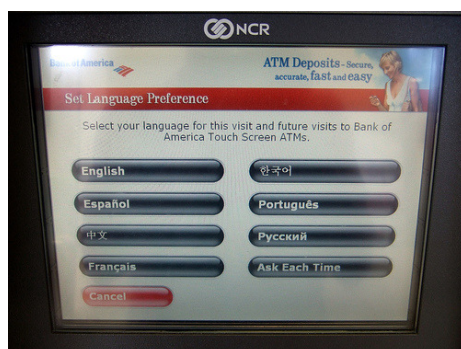
### Newid iaith rhyngwyneb catalog llyfrgell Library catalogue language interface swap

- Māori used significantly less by Māori speaking clients when default English
- 21% increase in Māori usage requests
- Māori sessions were also longer

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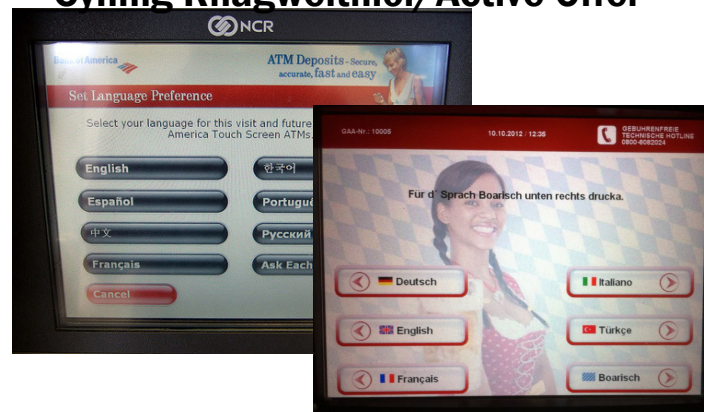
### Cynnig Rhagweithiol/Active Offer



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## Cynnig Rhagweithiol/Active Offer



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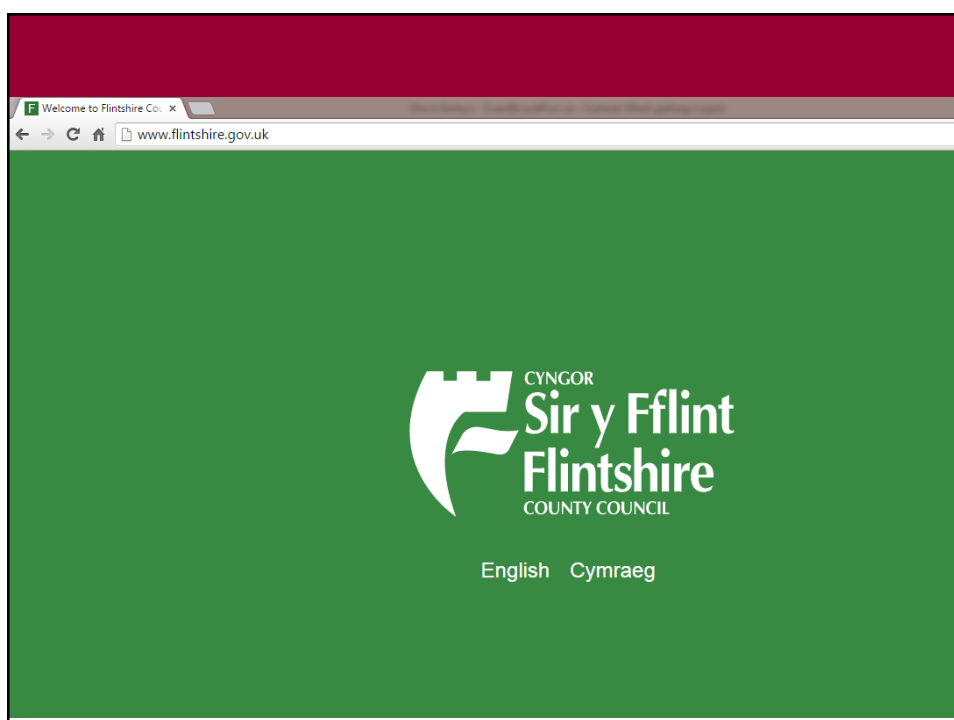
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## Peiriannau Arian/Cashpoints



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[illegible]

Which language do you require?

Pa iaith hoffech ddefnyddio?

English

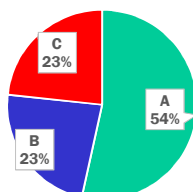
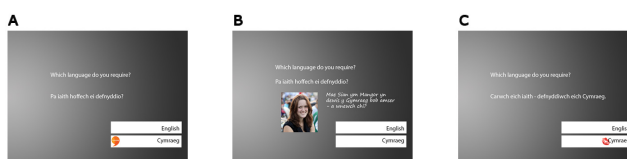
Cymraeg

## Ein Hymchwil/Our Research

- Exploratory Research 2014-15
- N=147
- M=39.5%, F=60.5%
- Mainly students
- Fluent Welsh Speaker: 96.6%
- Speak Welsh Daily: 80%
- Ymchwili Gychwynnol 2014-15
- N=147
- G=39.5%, B=60.5%
- Myfyrwyr yn bennaf
- Rhuglder yn y Gymraeg: 96.6%
- Ei siarad yn ddyddiol:
- 80%



Pa un o'r sgriniau hyn ar beiriant arian fyddai'r un fwyaf tebygol o annog siaradwr Cymraeg i ddefnyddio'r Gymraeg?  
Which one of these cashpoint screens would be most likely to encourage a Welsh speaker to use Welsh?

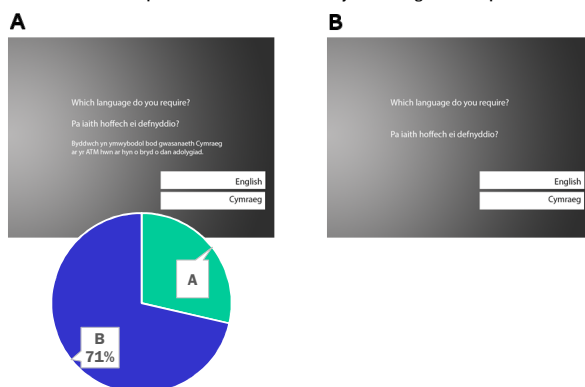


Q11



**Pa un o'r sgriniau hyn ar beiriant arian fyddal'r un fwyaf tebygol o annog siaradwr Cymraeg i ddefnyddio'r Gymraeg?**

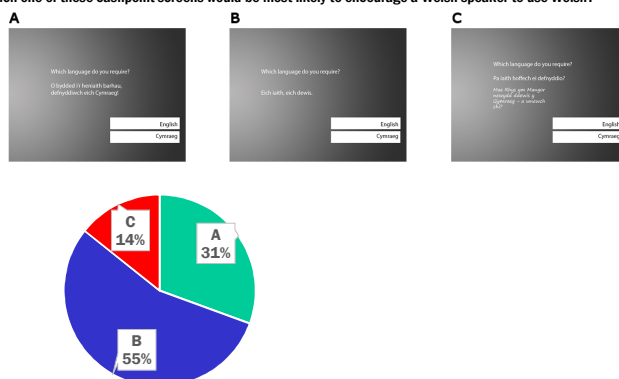
**Which one of these cashpoint screens would be most likely to encourage a Welsh speaker to use Welsh?**



Q1  
2

**Pa un o'r sgriniau hyn ar beiriant arian fyddal'r un fwyaf tebygol o annog siaradwr Cymraeg i ddefnyddio'r Gymraeg?**

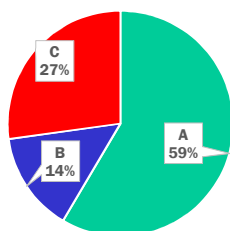
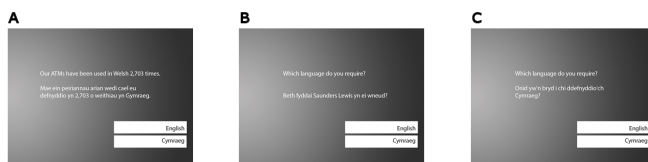
**Which one of these cashpoint screens would be most likely to encourage a Welsh speaker to use Welsh?**



Q13

Pa un o'r sgriniau hyn ar beiriant arian fyddal'r un fwyaf tebygol o annog siaradwr Cymraeg i ddefnyddio'r Gymraeg?

Which one of these cashpoint screens would be most likely to encourage a Welsh speaker to use Welsh?



Q14

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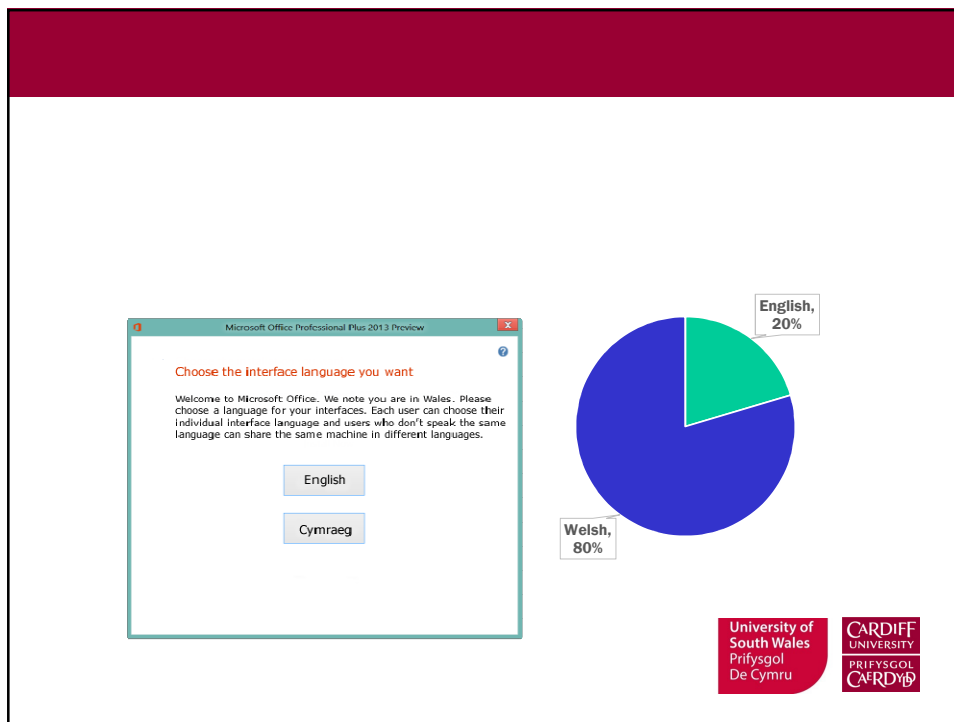
**Dychmygwch y sefyllfa ganlynol, rydych newydd brynu cyfrifiadur newydd ac mae'r blwch deialog canlynol yn ymddangos. Ym mha laith byddech yn parhau?**

**Imagine the following situation, you have just bought a new computer, and the following dialogue box appears. In which language would you continue?**

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## Hergwd a'r Gymraeg/Nudge and Welsh

- ...peidied neb â meddwl bod yr hawl i'r Gymraeg a chynyddu defnydd o'r iaith bob amser yn mynd law yn llaw. Nac ychwaith y bydd deddf iaith newydd yn cyfrannu rhyw lawer at adfer yr iaith os na roddir sylw manwl i sut y gellir 'nydjio' trwch y boblogaeth Gymraeg ei hiaith i fanteisio ar unrhyw gyfleoedd newydd a ddaw yn ei sgîl. Yn ogystal â'r hawl, mae angen yr hergwd.
- ...let no-one think that the right to use Welsh and increasing Welsh language use always go hand in hand. Nor that a new Welsh language act will contribute substantially to language revival unless detailed attention is given to how the majority of Welsh speakers can be 'nudged' into taking advantage of the resultant opportunities [to use the language]. As well as rights, a nudge is needed.

Roy Thomas, *Barn*, 566, 3/2010, 20.

## Cyfleoedd/Opportunities?

- How is ICT taught in Welsh medium schools
- Catalanitzador for Wales
- Preinstall
- Bilingual setups (manufacturer led)
- Sut dysgir TGCh mewn Ysgolion Cymraeg
- Catalanitzador i Gymru
- Rhagosod
- Prosesau gosod dwyieithog (gyda'r gwneuthurwr)



## Cyfleoedd/Opportunities?

- Welsh language measure/codes of practice
- Tie in to locale, and ensure proactive offer of locale
- Bilingual petrol pumps...
- Bilingual PDQ machines...
- Mesur y Gymraeg/Codau Ymarfer
- Clymu i mewn i locale a sicrhau cynnig rhagweithiol i locale
- Pymphiau petrol dwyieithog...
- Peiriannau PDQ dwyieithog...





**Gwasanaethau Dwyieithog Ar-lein**  
**Bilingual Online Services**



**Croeso**  
**Welcome**